



## **MARYLAND GREEN BUILDING COUNCIL MEETING SUMMARY**

**Lowe House Office Building Room 318  
Annapolis, Maryland  
22 October 2014**

### Attendees:

Prescott Gaylord – MDGBC  
Stephen Gilliss – DGS  
Anja Caldwell - MDGBC  
Soren Graae – DBM  
Meg Andrews - MDOT

David St. Jean- MEA  
David Lever – PSCP  
Anne Raines- MDP  
David Costello – MDE

### Support:

Ellen Robertson - DGS  
Josh Cohen - DGS  
Kelly Walker - DGS

Tonya Zimmerman – DLS  
Lisa Simpson - DLS  
Laura Rogers - MDOT

### Guests:

Marta Tomic – MEA  
Chris Hill – MEA  
Fariborz Mahjouri – Aurora Energy  
Belina Raffy – Maffick Ltd.

Hans Wittich - SolarGaines  
Hayley Evans – MD Asphalt  
Adam Baker - USGBCMD  
Fred Widicus – Carbon Finance Strategies, LLC

- I. Greetings/Introduction – Chairman Prescott Gaylord called the meeting to order and introduced the main intent of the meeting, namely to discuss the solar energy industry in Maryland, how it works and what can be done to promote and simplify the use of solar energy in the state.
- II. Prior to proceeding with the main purpose of the meeting, Prescott asked for a motion to approve the meeting summary from the meeting held on August 27, 2014. A motion was made and the meeting summary was approved.
- III. Prescott introduced the “Solar Panel” as a discussion of the solar energy industry in Maryland and how to increase the installation of solar power and the solar industry in the State.
  - A. First up was Hans Wittich. His company is a solar design and installation business. He sees several big issues
    1. Solar Renewable Energy Certificates (SRECs) – solar energy producers sell these certificates to entities that need renewable energy credits based on the amount of energy produced. They make money on the certificates while saving money on electricity. He is concerned about how to drive SREC prices to avoid the problem PA has had in falling values. If values fall, obviously the SREC is not as attractive, fewer solar energy systems sell since the incentive to build solar installations is reduced. He noted stabilization is as important as higher prices.

- a. The State's Renewable Portfolio Standard (RPS) – requires the entire State to reach 2% of electricity generation to be by solar by 2022.
    - b. Generating value for generating power. As the RPS goal grows hopefully value continues to rise. In Maryland we have historically had too much supply which is keeping SREC values low. The supply is now stabilized but needs to be maintained going forward.
  2. There are no uniform standards across jurisdictions so installing solar can be more problematic in some places than others.
  3. Question from Prescott – Does SolarGaines do Photovoltaic (PV) and hot water solar? Hans said they started out doing both but have focused on PV as it is easier to track.
  4. The trend in the industry is financing – costs are down but financing is still needed for residential & small commercial.
  5. The two models are leasing and ownership.
    - a. In the leasing model the homeowner leases the array from the owner/company and does not get the SRECs.
    - b. In the ownership model, the homeowner gets the SRECs
  6. Is any of the equipment produced in the US or state? The main components are from China and Asia. The basic electrical components can be made here.
  7. David Costello asked what recommendations Hans might have. Hans said the RPS could be increased. He is thinking a 4% carve out for solar would help. Maryland now has about 202 megawatts and is slightly over supplied right now.
  8. Marta Tomic – Solar Program Manager for MEA stated that systems over 1.5 MW have to obtain a Certificate of Public Convenience and Necessity (CPCN) right now. There are a number of CPCN applications filed with the PSC right now.
  9. Anja Caldwell asked which are the best jurisdictions to build solar in? Hans responded that Howard County is easiest to get permits and inspections.
- B. Marta Tomic spoke next
1. MEA has a number of initiatives to increase the use of solar.
  2. Current installed capacity (202 MW) accounts for approximately 16% compliance toward MD's RPS solar carve-out
  3. SRECs have been stable the past few years
  4. The Clean Energy Grant program provides grants for numerous technologies including solar. \$1.3 million was granted for 8 MW of solar power for 1008 homeowners. Currently working on permitting jurisdictions by developing an online application portal for Howard, Montgomery, Prince Georges, Annapolis. The online application portal will allow solar permits to be submitted online, not in person like most counties. Eventually will include grant applications. RFP goes out next year and will take time.
  5. The Clean Energy Grant also includes incentives which provided for 6.6 MW of solar canopy structures and 28 electric vehicle charging stations to be installed across 7 counties.
  6. MEA is also providing solar hot water feasibility studies for several DPSCS and DJS Correctional Facilities.
  7. In the area of schools – Maryland is 9<sup>th</sup> in the country for the installation of solar on school roofs. Presently 8 MW on 35 schools.
  8. David Costello asked what is the value of solar. MEA is considering studying this. Prescott asked about the benefits of community solar systems. David Costello responded that the challenge is to the utilities for distribution. They need a grid and environmental benefits.
  9. California has started a standardized permitting system for solar.

10. David Lever said the schools are installing solar on both new buildings and re-roofing projects. Roofs are good for 20-30 years so the system can be undisturbed for a number of years.
- C. Fariborz Mahjouri of Aurora Energy spoke next.
  1. Aurora started in 1991. They have done solar installations at the Pentagon and the White House.
  2. Elon Musk of Tesla and SpaceX fame created Solar City to bring solar into the market in 2011. Solar City is very busy especially for the homeowner. Third party solar leasing companies, like Solar City, are successful enough that MEA stopped awarding grants to leasing companies. Homeowners who purchase their system are eligible for MEA residential grants.
  3. A major challenge in contracting solar energy is permitting, inspection, interconnection with the utilities.
  4. The installed price is high though hard costs are getting more affordable. US based Sun Power manufactures efficient panels in the US, their collector prices dropped almost 60% in last few years .
  5. Soft costs are still high. Permits and labor costs are a problem. Especially in terms of getting inspectors to show up on job sites in a timely fashion. Time is wasted waiting for multiple inspections in many cases. Fortunately in Howard County these costs aren't as high.
  6. In Germany installation and inspection processes are much simpler – 15 – 20% less expensive even including the higher labor & benefits for German workers.
  7. In Maryland there are also Historic District which drive up the cost and make solar more difficult.
  8. Interconnectivity with utility companies is also not happening in a standard way, so full benefits are not realized. Germany is 25-30 years ahead of US and is a leader in technology. Chinese products are based on German engineering and their manufactures are based on latest technologies and are operating more efficiently than aging US facilities. We used to have BP Solar in Frederick but it shut down years ago.
  9. Interconnection with utilities is a big problem.
    - a. Prescott asked what we can do? Marta said they are looking at interconnection standards but it is a long process. There are several municipalities and power companies servicing Maryland Customers. Each of them have their own requirements and challenges. For example, PEPCO is running out of net-meters.
    - b. Prescott asked if legislation would help? David Costello responded possibly... the General Assembly could but it's very tough politics. Some of the utilities are warm to micro grids; but others don't want to be dinosaurs/out of business.
  10. Prescott noted, based on the discussion so far that we have two clear ideas to present:
    - a. Resolving interconnection with the utilities.
    - b. Cleaning up and standardizing the permitting process statewide.
  11. Fariborz said that they are working on roof of a winery for a community system for five houses. BGE wants \$30K to upgrade their service by installing a transformer. The system won't provide more than 35% of need, therefore, supply service will be reduced not increased. BGE applies the same requirements for this PV system as a gas powered generator. The current law requires the new generator to pay interconnection cost. Upgrades are expensive. There is a fundamental difference between power generation of a PV system and a conventional generator.
  12. On the topic of solar hot water. MEA helped them install solar hot water at a Talbot County correctional facility. However, solar hot water isn't competitive in the long run with PV. PV has no maintenance compared to solar hot water and excess energy of PV system will be sent to the grid. It is better to heat water by using PV to go straight to a

heating element. This is a much simpler system and cost effective because of price reduction of PV panels.

13. SolarCity put a new standard in solar installation with its leasing model. They are a great company and competitor. They promote solar by far better than many US administrations in recent years.
  14. Hanz added that another challenge is the interpretation of different codes by the inspectors. The standard of care is a problem as well as many inspectors don't even get out of their cars. In Germany this is all taken seriously as important work.
- D. Fred Widicus spoke next. His company is not in Maryland yet but works in New Jersey and Massachusetts.
1. Key is to incentivize commercial growth
    - a. Can aggregate solar generation across numerous businesses
    - b. Condition the RPS to help aggregate users. This makes it a benefit to solar generators. This can help in summer.
    - c. The percentage of net metering could be expanded. In Massachusetts net metering is 4% for commercial customers.
    - d. Feed in Tariff – (FIT) of \$110 per mwh is a help – over long term for investors
    - e. Prescott asked him to explain. A FIT is long-term contract to renewable energy producers, typically based on the cost of generation of each technology. A bottom cost is put into the auctions. MIT did this. Massachusetts is in front in this field.
    - f. Marta notes that it is complicated. In the 2<sup>nd</sup> round the state paid. Fred responded that the 3<sup>rd</sup> round did work. SRECS are above \$300 in Massachusetts.
  2. Prescott asked where do you put your money for solar?
    - a. Southern California for the sun value
    - b. Massachusetts is second. Massachusetts is decommissioning coal and nuclear generating plants so it's a plus.
    - c. Utilities don't like FIT. Fit is a guaranteed price for the generated value as opposed to unknown future values. It is a stabilization of price.
    - d. Hanz noted that FIT was bad in Europe as it was set too high.
    - e. Fred said that congestion problems with locations of PV are also a problem.
    - f. Marta agreed and said it would be great to explore strategic siting of solar generators. The utilities argue security concerns for sharing this information. Electricity storage would be a big help too, to address intermittency of the solar resource and provide grid support services.
    - g. David Costello suggested schools with panels and storage might work. Need outside investors in solar to put in money for a return. He'll connect up with David Lever.
    - h. Fred said it would also help to stabilize the price for longer durations. Need 15 year durations /agreements.
    - i. Fariborz said an Aurora solution is storage with night time battery charging with offset power from the grid. There is a San Diego pilot project for storage. The cost of batteries is the main thing – production is not high enough. Stephen Gilliss asked is storage that expensive or is it that we don't want to use it? Fariborz maintains that it's the cost of the batteries.
    - j. David Costello suggested there are ways to think outside the box. In Wyoming there is a proposal to use excess wind energy to compress air in abandoned salt caverns. The compressed air would drive generators when needed. Batteries aren't needed.
    - k. Anja asked where we are on the useful life span of PV panels? Fariborz said some of BP's panels were bad but they replaced them – that's why a good warranty is important.

- l. Hanz said their experience is that maintenance is minimal...there is a small degradation over the lifetime which is improving.
  - m. Marta said at the end of 20-25 years a panel is 85% effective. Generally the warranty is longer than the contract term of third-party owned systems but a panel should last close to 30-35 years.
- E. Prescott wrapped up the session
  - 1. Create stability in prices.
  - 2. Predictable permitting and inspection.
  - 3. Improving interconnection to facilitate net metered systems.
- F. Peter Doo asked what is the demand for renewable energy credits? Marta said it's supply and demand. Fred added that there are only a few buyers.

#### IV. IgCC update

- A. Stephen Gilliss said that the committee is still working on the code official clarifications and the Project Electives sections. The hope is to have a final version of the code ready for an approval vote at the November meeting.
- B. Stephen recounted his telephone call with Mark Nauman, the code official in Montgomery County responsible for developing their version of IgCC. Contrary to what we were told by the asphalt industry lobbyists, the County has only reduced their heat island mitigation hardscape area to 40%. They have made no other changes to that section of the code and have not made an allowance for porous asphalt to be used in the mitigation area. Montgomery is now looking at the first of the year to release their code if all goes well.
- C. Prescott asked about Baltimore City. Peter Doo responded that the City's final working session will be November 5<sup>th</sup>. Councilman Kraft wants it in effect by January 1, 2015. Peter said no one is sure what is in the final version. (Editor's note – the City's IgCC was approved in November 2014 as Council Bill 14-0413.)

#### V. Once Around the Table

- A. David St. Jean reported that the RFP is out for the MEA grant for energy code training and compliance. They will be looking at 17 counties and up to 13 homes each for data collection for two years. The program would end in 2017. There would be on site data collection on 10 items per house for new construction. The key is buy-in from the local permitting offices.
- B. Meg Andrews observed that like with solar the Electrical Vehicle Infrastructure Council was running into problems with permitting for charging stations. They met with code officials. The outreach and education helped and solved the problem.
- C. Stephen Gilliss reported that in working on the Council's Annual Report he has seen that, due to a tight state budget, that fewer projects are being funded this year for design than in any of the past 7 years.
- D. Anja Caldwell said that she is involved with several German projects including The German School of D.C located in Potomac, MD and the German Embassy in D.C. She is seeing some new interesting HVAC technologies. Anja also said she liked the format of today's meeting.
- E. Prescott noted that the next meeting will be held the week before Thanksgiving as the State is closed on the day before Thanksgiving, our normal meeting day. Hopefully we will be finalizing and voting on the IgCC. He is also working on a "visioning" session for the Council to develop a blueprint for a new administration and future Council initiatives. It may include other groups and may involve all state buildings. All of this remains to be determined. (Editor's note: the Visioning session is scheduled for Thursday December 18, 2014 ).

The meeting was adjourned at 12:00 p.m. the next meeting is scheduled for November 19, 2014 in Room 318 in the Lowe House Office Building.

The preceding is intended as a summary only of the discussions held on this meeting date. Council members are requested to review the summary and notify the writer of any errors, omissions or unintended misrepresentations of the discussion.